

**REMARKS**

Claims 1 and 3-18 are pending in this application. By this Amendment, claims 1, 3, 7, 8, and 12 are amended as previously set forth in the January 5, 2006 Amendment After Final Rejection and the January 31, 2006 Second Amendment After Final Rejection. Specifically, by this Amendment, claim 2 is canceled, claims 1, 7, 8 and 12 are amended because of the incorporation of the features of claim 2 into independent claims 1 and 7, and claim 3 is amended for clarity.

**I. Claim Objection**

The Office Action objects to claim 3 as not being clear. By this Amendment, claim 3 is amended for clarity. It is respectfully requested that the objection be withdrawn.

**II. Claim Rejection**

In the October 5, 2005 Office Action, claims 1-18 are rejected under 35 U.S.C. §103(a) over "Applicants Admitted Prior Art (AAPA)". The rejection is respectfully traversed. Additional arguments regarding that rejection are presented in the January 25 and February 24, 2006 Advisory Actions. Those arguments are also traversed as explained below.

**A. The rejection is based on impermissible hindsight.**

According to the Office Action, it would have been obvious to someone of ordinary skill in the art to modify the alleged AAPA to arrive at the present invention. Such modification of Applicants' own disclosure is impermissible hindsight because, without Applicants' specification, a person of ordinary skill in the art would not be able to create the present invention. Moreover, other than as stated in Applicants' own disclosure, there is no motivation to modify the alleged AAPA as asserted in the Office Action. Accordingly, a rejection under 35 U.S.C. §103(a) is improper, and it is respectfully requested that the rejection be withdrawn.

To the extent the rejection is based on the assertion that common knowledge would motivate a person of ordinary skill to modify the alleged AAPA, that bases for the rejection is improper for the reasons provided below.

**B. The rejection fails to consider evidence supporting patentability.**

"The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness." MPEP §2142. "When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper." MPEP §2142. In the February 24, 2006 Advisory Action, the Examiner affirms that the alleged AAPA does not provide a motivation to modify the AAPA by asserting that a person of ordinary skill using common knowledge would have modified the AAPA to achieve the three purported advantages of: (1) reducing the cost of the product by using less quantity of wire, (2) reducing the cost of the product by making easier connections and thereby reducing the steps needed to complete the final product, or (3) simply for aesthetic reasons.

As set forth in MPEP §2142, in a rejection under 35 U.S.C. 103, the Examiner must consider any evidence supporting the patentability of the claimed invention, such as any evidence in the specification or any other evidence submitted by the applicant, and base the rejection "on the totality of the evidence." In the January 31, 2006 Amendment (and as explained again below), Applicants identified evidence supporting the patentability of the pending claims. Specifically, Applicants identified that the external electrodes of the alleged AAPA are placed far apart (at opposite corners of the package) in order to prevent any electrical directivity ascribable to mounting of the package and, when the package is made of metal, to electromagnetically shield the interior of the package. See specification at paragraphs [0003] and [0004]. Applicants further explained that these attributes would likely be negated if the alleged AAPA is modified as proposed in the rejection.

Contrary to MPEP §2142, the rejection fails to establish a *prima facie* case of obviousness because the rejection is not "based on the totality of the evidence" when it fails to evaluate Applicants' evidence against the three alleged motivations first identified in the February 24, 2006 Advisory Action. The rejection also fails to "provide evidence which as a whole shows that the legal determination sought to be proved ... is more probable than not." MPEP §2142. Specifically, the rejection fails to address Applicants' evidence, and to explain why the three alleged motivations carry more patentable weight than Applicants' evidence.

Applicants respectfully submit that the alleged three motivations set forth in the February 24, 2006 Advisory Action would not motivate one to modify the AAPA as asserted in the rejection. The alleged savings in wiring material and manufacturing costs would not motivate a person of ordinary skill to modify the AAPA in light of the above-described issues relating to electrical directivity and electromagnetically shielding. Furthermore, the alleged aesthetic motivation is not plausible because the asserted modification concerns internal wiring that is not viewable from the outside of the AAPA device.

**C. The rejection fails to support its factual bases.**

"Ordinarily, there must be some form of evidence in the record to support an assertion of common knowledge." MPEP §2144.03(B). "The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge." MPEP §2144.03(B). The rejection fails to provide evidence, or a specific factual finding predicated on sound reasoning, supporting the assertion that common knowledge would motivate a person of ordinary skill to modify the alleged AAPA. Rather than identify any evidence supporting its assertion, the Office Action relies solely on the Examiner's speculation. The rejection also fails to apply sound reasoning because it fails to evaluate the evidence cited by Applicants in the January 31, 2006

Amendment (and as explained again below), and because it fails to explain why Applicants' evidence does not overcome the Examiner's speculation.

In the January 31, 2006 Amendment (and again in this Amendment), Applicants properly challenged the assertions made in the rejection, and identified the errors in the rejection. See MPEP §2144.03(C). Contrary to MPEP §2144.03(C), the February 24, 2006 Advisory Action failed to provide documentary evidence supporting the assertions. The rejection therefore cannot be maintained.

The challenge first set forth in the January 31, 2006 Amendment, and additional arguments, are provided below.

**D. The assertions in the rejection are incorrect, and it would not have been obvious to modify the alleged AAPA as asserted in the rejection.**

The alleged AAPA does not disclose a piezoelectric resonator having a pair of external electrodes electrically connected to a piezoelectric resonator element and being disposed along a shorter latus of a package, as recited in independent claims 1 and 7. As shown in Fig 10C of Applicants' drawings, external electrodes 24a and 24c are electrically connected to piezoelectric resonator element 14, but those electrodes are not disposed along a shorter latus of package 12 because they are disposed on opposite corners of package 12.

The October 5, 2005 Office Action and January 25, 2006 Advisory Action assert that it would have been obvious to rearrange the electrode as recited in independent claims 1 and 7, but no support is provided for that assertion. Applicants bring to the Examiner's attention that the asserted modification is not obvious because the external electrodes of the alleged AAPA are placed far apart (at opposite corners of the package) in order prevent any electrical directivity ascribable to mounting of the package and, when the package is made of metal, to electromagnetically shield the interior of the package. See specification at paragraphs [0003] and [0004]. The alleged AAPA thus teaches that these attributes would likely be negated if the alleged AAPA is modified as asserted in the rejection. It is therefore not obvious to

modify the alleged AAPA as asserted in the rejection. Furthermore, the asserted modification is not obvious because the piezoelectric oscillator of the pending claims has the advantage of reduced size without parasitic capacitance due to extra wiring. See specification at paragraph [0009].

The February 24, 2006 Advisory Action asserts for the first time that aesthetics provide sufficient motivation to modify the alleged AAPA. Applicants traverse that assertion. Aesthetics are irrelevant and cannot serve as a motivation to modify the AAPA because the asserted modification regards internal wiring that is not viewable from the outside of the AAPA device.

The February 24, 2006 Advisory Action also asserts that "the device as claimed would not perform differently than [the] device disclosed" in the alleged AAPA. As explained in the January 31, 2006 Amendment, the alleged AAPA device suffers capacitance-related problems whereas the claimed device mitigates those problems. The device as claimed would thus perform differently.

Accordingly, for the above reasons, the rejection is in error and it would not have been obvious to modify the AAPA.

Applicants identify the following additional supporting evidence from the specification demonstrating that it would not have been obvious to modify the alleged AAPA. The drawings provided below are based on Figs. 1A, 2, 10A, and 11, but are modified to illustrate the sources of capacitance between the structures identified below. That capacitance is discussed in the specification at, for example, paragraphs [0009], [0011], and [0033].

Two sources of parasitic capacitance exist. The first is parasitic capacitance with the excitation electrode. As shown in modified FIG. 10A, a large parasitic capacitance is generated between the excitation electrode 16a and the connecting wiring portion 26 (see the following left figure at capacitance Ca). As shown in modified FIG. 1A, there is no need for

the connecting wiring portion 26, thereby reducing any parasitic capacitance (see the following right figure, capacitance  $C_b$ ).

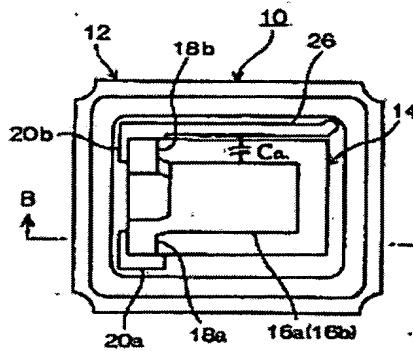


Fig. 10A (modified)

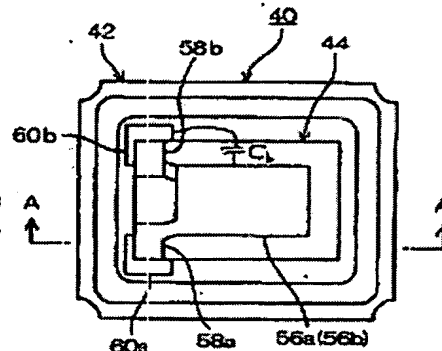


Fig. 1A (modified)

The second is parasitic capacitance with the wire pattern. As shown in modified FIG. 11, as the wire pattern 34 is extended near the piezoelectric resonator 10, the parasitic capacitance of the piezoelectric resonator 10 increases. A large parasitic capacitance is generated between the wire pattern 34 and the excitation electrode 16 (see the following left figure, capacitance  $C_c$ ). As shown in modified Fig. 2, there is no need for wire pattern 34, thereby reducing any parasitic capacitance (see the following right figure, capacitance  $C_d$ ).

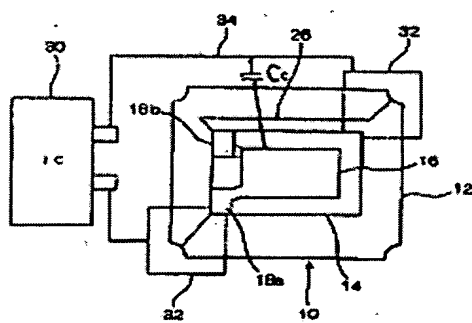


Fig. 11 (modified)

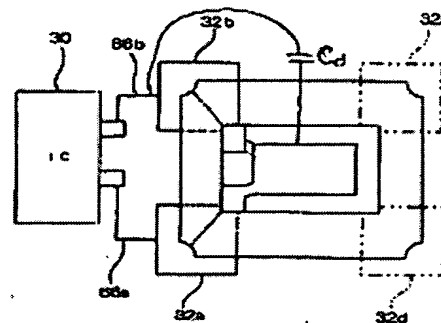


Fig. 2 (modified)

For the foregoing reasons, it is respectfully submitted that the evidence provided in the specification and explained above, demonstrates that it would not have been obvious to modify the AAPA as asserted in the rejection. Distinct advantages are achieved with the claimed device, and these advantages are not recognized in the alleged AAPA. Applicants

respectfully submit that if these advantages had been obvious, as asserted in the rejection, then the Patent Office would have been able to identify references disclosing the claimed device. However, as no such reference has been identified, it is submitted that the claimed device is patentable.

**III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Request for Continued Examination (RCE)  
Petition for Extension of Time

Date: March 6, 2006

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